This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A process for producing para-xylene from a feed containing xylenes, ethylbenzene and C9+ hydrocarbons, comprising at least the following steps:
    - a step for adsorption comprising contacting said feed with an adsorbent in a unit (LM6) operating as a simulated moving bed from which at least three effluents are produced: an extract (7) essentially constituted by para-xylene and desorbant; an intermediate fraction, termed the intermediate raffinate, which essentially contains ethylbenzene, and a second fraction, termed the 2-raffinate, which essentially contains a mixture of meta- and ortho-xylene;
    - a step for isomerization of C8 aromatics, in a catalytic unit (IS 19) operating in the vapour phase and converting ethylbenzene, to treat the intermediate raffinate;
    - a step for isomerization of C8 aromatics in a catalytic unit (IS20) operating in the liquid phase or in the vapour phase, to treat the 2-raffinate.

2. (Currently Amended) A process according to claim 1, further comprising~~, between the adsorption step and the isomerization steps,~~ a step for purifying the para-xylene ~~of~~ in at least a portion of the extract by crystallization.

3. (Currently Amended) A process according to claim 1, comprising at least the following steps:
    - sending the feed (1) to a distillation column (CD2) from which a mixture (3) is extracted overhead comprising the major portion of the meta-xylene, para-xylene, ethylbenzene and at least a portion of the ortho-xylene, and from which a stream (4) of C9-C10 hydrocarbons and the remaining portion of the ortho-xylene are extracted from the bottom;
    - separating the overhead mixture (3) in ~~a~~ said simulated moving bed in at least one

separation column (LM6) containing a plurality of interconnected beds and operating as a closed loop, said column comprising at least five zones defined by the injections of the stream (3) constituting the feed for the column (LM6) and the desorbant (5) and the withdrawals of ~~an~~ said extract (7) containing para-xylene, ~~an~~ said intermediate raffinate (8) containing ethylbenzene and ~~a~~ said 2-raffinate (9) containing ortho-xylene and meta-xylene, the para-xylene desorption zone 1 being included between the desorbant injection (5) and the extract removal (7); the ethylbenzene, ortho-xylene and meta-xylene desorption zone 2 being included between the extract removal zone (7) and the adsorption feed injection (3); the para-xylene adsorption zone 3A being included between the feed injection (3) and the intermediate raffinate withdrawal (8); the ethylbenzene adsorption zone 3B being included between the intermediate fraction withdrawal (8) and the 2-raffinate withdrawal (9); and the zone 5 being included between the 2-raffinate withdrawal (9) and the desorbant injection (5);

- distilling the intermediate raffinate (8) in a column (CD 11) to eliminate substantially all of the desorbant and withdrawing a first distilled fraction (14) containing ethylbenzene;
- distilling the 2-raffinate in a column (CD 12) to eliminate substantially all of the desorbant and withdrawing a second distilled fraction (15);
- distilling the extract (7) in a column (CD10) to recover a fraction (13) which is enriched in para-xylene;
- sending said first distilled fraction (14) to a first zone for isomerizing C8 aromatics (IS 19) operating in the vapour phase and converting ethylbenzene to obtain a first isomerate (22);
- sending at least a portion of said second distilled fraction (15) to a second xylene isomerization zone (IS20) to obtain a second isomerate (21);
- sending the first isomerate (22), after eliminating its light fractions, into a separation train (29) towards the distillation column (CD2);
- recycling the second isomerate (21) either (stream 40) to the simulated moving bed

separation column (LM6) as a mixture with the overhead stream (3) from the distillation column (CD2) or (stream 41) to the distillation column (CD2) as a mixture with the feed (1).

4. (Original) A process according to claim 3, in which the fraction (13) from the extract (7) is enriched in para-xylene with a purity of at least 50%, and is sent to at least one crystallization zone (CR23) to deliver para-xylene crystals and a mother liquor, the crystals being separated from the mother liquor, optionally taken up in suspension, washed and recovered (stream 24) and the mother liquor (25) is mixed with the feed (1) supplying the simulated moving bed separation column (LM6) via the column (CD2).

5. (Currently Amended) A process according to claim 1, in which ~~the~~ a first isomerization zone (IS 19) operating in the gas phase is operated under the following conditions:

- a temperature of more than 300°C;
- a pressure of less than 4 MPa;
- an hourly space velocity (HSV) of less than 10 $h^{-1}$;
- a catalyst containing a zeolite with structure type EUO and at least one group VIII metal;
- a $H_2$/hydrocarbon molar ratio of less than 10.

6. (Currently Amended) A process according to claim 1, in which ~~the~~ a second isomerization zone (IS20) operating in the liquid phase is operated under the following conditions:

- a temperature of less than 300°C;
- a pressure of less than 4 MPa;
- an hourly space velocity (HSV) of less than 10 $h^{-1}$;
- a catalyst containing a ZSM-5 type zeolite.

7. (Previously Presented) A process according to claim 1, in which the stream (4) from the bottom of the distillation column (CD2) is distilled in a distillation column (CD32) to produce an overhead stream (33) of high purity ortho-xylene, and a bottom stream (34) containing C9-C10 hydrocarbons.

8. (Original) A process according to claim 7, in which the stream containing ortho-xylene (33) is recycled to the isomerization zone in the liquid phase (IS20).

9. (Previously Presented) A process according to claim 1, in which the adsorbent used in the simulated moving bed separation unit (LM6) is a barium-enriched X zeolite or a potassium-enriched Y zeolite or a barium- and potassium-enriched Y zeolite.

10. (Previously Presented) A process according to claim 1, in which the desorbant used in the simulated moving bed separation unit (LM6) is selected from para-diethylbenzene, toluene, para-difluorobenzene or a mixture of diethylbenzenes.

11. (Previously Presented) A process according to claim 1, in which the volume ratio of the desorbant to the feed in the simulated moving bed separation unit (LM6) is in the range 0.5 to 2.5.

12. (Previously Presented) A process according to claim 1, in which the simulated moving bed separation unit (LM6) is operated at a temperature in the range 20°C to 250°C and at a pressure in the range from the bubble point of xylenes at the operating temperature to 2 MPa.

13. (Previously Presented) A process according to claim 3, in which the ethylbenzene content of the second distilled fraction from the 2-raffinate (stream 15) is at most 5% by weight.

14. (Previously Presented) A process according to claim 1, in which the gas phase isomerization unit (IS 19) comprises a zeolite with structure type EUO and at least one metal from group VIII of the periodic table in a proportion of 0.01% to 2% by weight with respect to the catalyst.

15. (Currently Amended) A process according to claim 1, in which the catalyst from the ~~gas~~ vapour phase isomerization unit (IS19) contains an Eli-1 zeolite and platinum.

16. (Previously Presented) A process according to claim 3, in which a portion of the distilled stream from the 2-raffinate (stream 15) is sent to a set of units which can produce high purity meta-xylene and/or ortho-xylene.

17. (Currently Amended) ~~Use of~~ Conducting a process according to claim 1, in the context of a modification to an existing unit with a view to increasing the quantity of para-xylene produced.